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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,925	06/28/2007	Gilles Durand	IPG-PT004	1829
3624 7590 07/07/2009 VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103				
EXAMINER				
KELLEY, STEVEN SHAUN				
ART UNIT		PAPER NUMBER		
2617				
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07/07/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/581,925

**Applicant(s)**

DURAND ET AL.

**Examiner**

STEVEN KELLEY

**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/02)  
Paper No(s)/Mail Date 6-7-06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language "wherein the terminal includes a vacant space around the energy-storing device between the printed circuit card and the rear shell" recited in claim 1 is confusing (and/or inaccurate), as it is unclear as to whether it is the "vacant space" or the "energy storing device" that is "between the printed circuit card and the rear shell".

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by WO 02/101875 to Ostervall (hereinafter "Ostervall").

Regarding claim 1, Ostervall shows (in Fig. 4) a mobile phone which includes a printed circuit card (1), a battery (3) (or “energy storing device” as recited) and an antenna arrangement (2 and 2'). The position of these elements is as recited in claim 1. Ostervall however, does not show the housing (such as the recited front and rear shell) of this arrangement shown in Fig. 4. As Ostervall does teach (see for example page 1) that the “mounting of an antenna arrangement inside the housing of a mobile phone” is to “avoid protruding antenna parts”, it is inherent that the antenna arrangement shown in Fig. 4 would be enclosed by a front and rear shell, positioned as recited. Additionally, Ostervall teaches that the antenna assembly “may comprise any type of radiating element”, such as the recited “patch antenna”.

Regarding claim 2, antenna 2', extends as recited.

Regarding claims 3-4, the antenna (2 and 2') is located in the planes as recited.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ostervall in view of the Prior Art described (and shown in Figs. 1A and 1B) in the instant application (hereinafter “admitted Prior Art”).

Regarding claim 1, Ostervall teaches a radio communications terminal comprising: a housing formed with a rear shell and a front shell (not shown), the housing containing: a printed circuit card extending parallel to the rear shell and to the front shell (printed circuit board (PCB) 1); an energy-storing device placed in a first dedicated space located between the rear shell and the printed circuit card (battery 3), having an upper surface extending in a plane parallel to the rear shell; a patch antenna placed in a second space also located between the rear shell and the printed circuit card (antenna 2 and 2'), said second space being contiguous to the first space, said patch antenna being connected to the energy-storing device via the printed circuit card (using PCB 3 and PCB 1 in Fig. 4 and see page 9 lines 1-3, which teaches that "PCB 1 and PCB 3 need not be separated PCBs but may be comprised of an integrated PCB"), wherein the terminal includes a vacant space around the energy-storing device between the printed circuit card and the rear shell and in that said second space occupied by said patch antenna extends over at least part of this vacant space (see antenna 2' which "extends over at least part of this vacant space", where the vacant space is the space between the battery and a rear housing shell (which would cover the antenna assembly shown in Fig. 4)).

As Ostervall does not explicitly show a housing formed with a front and rear shell, as recited, the admitted Prior Art is added for completeness to show a housing.

As shown in Fig. 1B in the instant application, a housing (2) of a mobile phone includes a rear shell 20 and a front shell 30. The front 20 and rear 30 shells are also physically located in planes parallel to a printed circuit card (70) as recited. Pages 3

and 6 of the instant specification teach motivations for using the vacant spaces in the admitted Prior Art antenna structure shown in Figs. 1A and 1B.

Therefore, in order to protect and shield the antenna structure of Ostervall (as described on page 1 of Ostervall) it would have been obvious to cover the antenna structure of Ostervall with a front and rear shell as described in the admitted Prior Art. Additionally, as Ostervall teaches that the antenna assembly "may comprise any type of radiating element", and the admitted Prior Art teaches the use of patch antennas, it would have been obvious to use patch antennas in Ostervall, as is conventional.

Regarding claim 2, which recites "wherein said second space occupied by said patch antenna extends over all the vacant space", as the exact location and/or size of the "vacant space" is not explicitly defined, the antenna 2' of Ostervall may be interpreted to "extend over all the vacant space" as recited. Additionally, as it is a matter of design choice and/or desired antenna power capabilities, etc., it is conventional (and obvious to one of ordinary skill) to change or modify the size of an antenna to achieve the desired antenna characteristics. Therefore, if a larger antenna were desired, it would have been obvious to increase the size of antenna 2' in Ostervall, which then would "extend over all the vacant space" as recited.

Regarding claim 3, which recites "wherein the patch antenna includes microstrips made in a plane extending between the upper surface of the energy-storing device and the rear shell", Ostervall shows the antenna structure 2' being located "in a plane above the upper surface of the energy-storing device", and would be located "between the

upper surface of the energy-storing device and the rear shell", when covered by the rear shell (as modified by the admitted Prior Art).

Regarding claim 4, which recites "wherein the patch antenna includes microstrips made in a plane with substantially the same surface as the rear shell of the housing", Ostervall shows the antenna structure 2' being located "in a plane above the upper surface of the energy-storing device", which when modified (covered) by the housing of the admitted Prior Art, would be "in a plane with substantially the same surface as the rear shell of the housing", as recited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Kelley whose telephone number is (571) 272-5652. The examiner can normally be reached on Monday-Friday, 9AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SSK/

/Lester Kincaid/

Supervisory Patent Examiner, Art Unit 2617